DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003147
Date Inspected: 28-Jun-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1430
OSM Departure Time: 2230
Location: Shanghai, China

CWI Name:	Li Zhi Jiang			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG/Tower

Summary of Items Observed:

On this date, Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) Inspector Edward Leach was present to randomly observe and document the welding and Quality Control (QC) functions performed by ZPMC personnel relative to the fabrication of SAS Superstructure project. While on site, the QA Inspector noted the following work.

OBG-Bay 1

The QA Inspector observed ZPMC has approximately 49 workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib press forming, hole drilling at ends of U-Ribs using a drill template, PJP bevel preparation, closed rib splice FCAW welding, closed rib diaphragm fit-up and FCAW welding, closed rib to deck plate fit-up and tack welding. Also in this bay, the QA Inspector observed the following deck panels located on gantry 1; DP222-001 (tack welded) & DP617-001 (SAW inprocess). The following deck panels located on gantry 2 are DP249-001 (tack welded) & DP141-001 (tack welded).

OBG-Bay 4

The QA Inspector witnesses ZPMC NDT personnel Yui Botin perform final Magnetic Particle Testing (MT) verification on open rib stiffeners on edge plate designations EP039-001 & EP053-001, open rib stiffener deck panel designated as DP022 and T-stiffeners on SP183-001. The MT was performed for approximately 25% of the fillet welded joints on the edge and side plates and 100% on DP022. Based on these observations, the MT appeared to be in compliance with AWS D1.5-2002 section 2.26.2.1, 6.26.2.3 and the contract specifications.

New Tower Shop-Bay 1

The QA Inspector observed Submerged Arc Welding (SAW) in-process for a complete joint penetration (CJP) weld splice on tower skin plate ESD1-SA49A/D-11A(11B). The welding was being performed by ZPMC qualified welding personnel identified as Shen Mei, welder ID #041716, utilizing JW-3, 4.8mm welding wire electrode. The QA Inspector noted ZPMC using welding procedure specifications (WPS)-B-T-2221-B-U3c-S-1 & WPS-B-T-2221-B-U3c-S for this application. ZPMC CWI personnel Liu Huajie was observed monitoring the welding at this location. The welder was also observed using proper interpass cleaning procedures with a wire brush and slag hammer. The QA Inspector verified the recorded electrical welding parameters and interpass temperature measurements on the daily QC welding report and noted the readings appeared to comply with the above mentioned WPS. The welding and workmanship randomly observed at this location appeared to meet the general requirements of the contract specifications.
Also in this bay the QA Inspector observed ZPMC personnel performing heat straightening on several tower skin plates near the front of the bay. The QA Inspector observed ZPMC using HSR1 (T)-2490 on plates designated as P128(S) & P147(S) and verified the maximum pre-heat temperature of 650 degrees Celsius had not been exceeded.

New Tower Shop-Bay 2
The QA Inspector observed Submerged Arc Welding (SAW) in-process for a single longitudinal weld splice where the weld joints were a combination of CJP and PJP designs. The designations for the weld joints are as follows; ESD1-SA80-B/E-24A(24B), ESD1-SA80-B/E-18(19), ESD1-SA80-B/E-11A(B), ESD1-SA80-B/E-20(21), ESD1-SA80-B/E-12A(12B), ESD1-SA80-B/E-16(17), ESD1-SA80-13A(13B), ESD1-SA80-B/E-22(23) & ESD1-SA80-B/E-24A(24B). The welding was being performed by ZPMC qualified welding personnel identified as Xu Yan, welder ID #052917, utilizing JW-3, 4.8mm welding wire electrode. The QA Inspector noted ZPMC using welding procedure specifications (WPS)-B-T-2221-B-U3c-S-1 & WPS-B-T-2221-B-U3c-S for this application. ZPMC CWI personnel Zhu Zhong Hai was observed monitoring the welding at this location. The welder was also observed using proper interpass cleaning procedures with a wire brush and slag hammer. The QA Inspector verified the recorded electrical welding parameters and interpass temperature measurements on the daily QC welding report and noted the readings appeared to comply with the above mentioned WPS. The welding and workmanship randomly observed at this location appeared to meet the general requirements of the contract specifications.

New Tower Shop-Bay 3
The QA Inspector randomly observed ZPMC welding and QC personnel performing inspection, grinding, and Flux Core Arc Welding (FCAW) repairs of Orthotropic Box Girder (OBG) deck panel Partial Joint Penetration (PJP) welds. During initial observations it was noted that thirty-three (33ea) deck panels are inside the shop.

Later in the shift, the QA Inspector, along with ABF QC personnel Kevin Chen and ZPMC QC personnel Li Yan Hua performed visual testing (VT) before repairs on the closed rib PJP welds for DP071-001 & DP072-001, weld designations 001 through 010. Areas with noted weld discrepancies were marked up and mutual agreements were reached by the three parties prior to the initiation of repair work. Once the inspection was complete all three parties signed the yellow repair status tag located on each deck panel.

WELDING INSPECTION REPORT

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Summary of Conversations:

No relevant conversations this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Leach,Ed	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer